

CLAIM: The statistical evidence is so overwhelming that the inescapable conclusion is that smoking causes CHD.

RESPONSE:

-- Even if the statistical (epidemiological or population) literature were consistent, such data, by their very nature, do not prove cause-and-effect. That is because, among other reasons, statistical data do not provide information on any possible biological -- i.e., causal -- process. Even reports of the United States Surgeon General have recognized this. The first such report, in 1964, noted that "statistical methods cannot establish proof of a causal relationship in an association."¹ Similarly, in the context of discussing smoking and cardiovascular disease, the 1979 report noted that "correlation is not synonymous with causation."²

-- There are many inconsistencies in the statistical studies of smoking and CHD. In fact, some research has even failed to observe a statistical relationship.³ This has been particularly the case in studies of heart disease in women.⁴

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-- Perhaps the most well-known epidemiological study of heart disease risk factors is the Framingham Heart Study in the United States. Interestingly, on the basis of apparent differences between men and women in any CHD/smoking association, and on other inconsistencies in the data, a Harvard University researcher has suggested that the results from this study generally are "inconsistent" with the U.S. Surgeon General's views about cigarette smoking and CHD.⁵

-- It is also a statistical paradox that trends in CHD rates over time do not correspond closely with trends in cigarette smoking. In recent decades, for example, trends in CHD rates have been reported to be increasing in some countries and decreasing in others, but such trends have not been shown to be explained by changes in smoking.⁶

REFERENCES

1. U.S. Department of Health, Education, and Welfare, Smoking and Health: Report of the Advisory Committee to the Surgeon General of the Public Health Service. Publication No. (PHS) 1103, Washington, D.C., U.S. Government Printing Office, (at 20), 1964.
2. U.S. Department of Health, Education, and Welfare, Smoking and Health: A Report of the Surgeon General. Publication No. (PHS) DHEW 79-50066, Washington, D.C., U.S. Government Printing Office, (at 4-65), 1979.
3. Cullen, K., Stenhouse, N.S., Wearne, K.L. and Welborn, T.A., "Multiple Regression Analysis of Risk Factors for Cardiovascular Disease and Cancer Mortality in Busselton, Western Australia -- 13-Year Study," J. Chron. Dis. 36(5): 371-377, 1983.
4. Lapidus, L., Bengtsson, C., Lindquist, O., Sigurdsson, J.A. and Rafnsson, V., "Smoking -- A Risk Factor for Cardiovascular Disease in Women?" Scand. J. Prim. Health Care 4(4): 219-224, 1986.

Kannel, W.B., "Update on the Role of Cigarette Smoking in Coronary Artery Disease," American Heart Journal 101(3): 319-328, 1981.
5. Seltzer, C.C., "Framingham Study Data and 'Established Wisdom' About Cigarette Smoking and Coronary Heart Disease," J. Clin. Epidemiol. 42(8): 743-750 (at 743), 1989.
6. Heller, R.F., "The Declining Mortality from CHD," Journal of the Royal College of Physicians of London 17(1): 73, 1983.

Welin, L., Wilhelmsen, L., Svärdsudd, K., Larsson, B. and Tibblin, G., "Increasing Mortality from Coronary Heart Disease among Males in Sweden," Cardiology 72(1/2): 75-80, 1985.